

# Quarterly Progress Report

## January through March 2017

Remedial Design - Lower 8.3 Miles of the Lower Passaic River

Operable Unit Two of the Diamond Alkali Superfund Site

In and About Essex, Hudson, Bergen and Passaic Counties – New Jersey

April 11, 2017

Revision 0

LPROU2-17-7.1.3-0004



**Glenn Springs Holdings, Inc.**

A subsidiary of Occidental Petroleum

PREPARED ON BEHALF OF

---

### Settling Party

**Glenn Springs Holdings, Inc.**

A Subsidiary of Occidental Petroleum

5 Greenway Plaza, Suite 110

Houston, TX 77046



**TETRA TECH**

PREPARED BY

---

### Supervising Contractor

**Tetra Tech Inc.**

6 Century Drive, 3<sup>rd</sup> Floor

Parsippany, NJ 07054

**P +1-973-630-8000**

**F +1-973-630-8165**

**tetrattech.com**

---

## TABLE OF CONTENTS

---

1	INTRODUCTION.....	2
2	SUMMARY OF ACTIVITIES DURING REPORTING PERIOD.....	2
2.1	SUPPORTING DELIVERABLES.....	2
2.2	PRE-DESIGN INVESTIGATION WORK PLAN.....	3
2.3	SITE WIDE MONITORING PLAN.....	3
2.4	SITE SELECTION AND EVALUATION WORK PLAN .....	4
2.5	MEETINGS .....	4
3	SAMPLING RESULTS / DATA.....	4
4	DESCRIPTION OF DELIVERABLES.....	4
5	REMEDIAL DESIGN (RD) SCHEDULE.....	4
6	DESCRIPTION OF MODIFICATIONS.....	4
7	COMMUNITY INVOLVEMENT PLAN (CIP) ACTIVITIES.....	4

## LIST OF ATTACHMENTS

---

- Attachment I    Project Deliverables Chronology
- Attachment II    Remedial Design (RD) Project Deliverables Schedule

## 1 INTRODUCTION

As per the Administrative Settlement Agreement and Order on Consent for Remedial Design (Settlement Agreement) Statement of Work (SOW), Paragraph 4.3, the Quarterly Progress Report provides a description of activities that took place during the subject period, including:

- a) **Summary of Activities:** The actions that have been taken toward achieving compliance with the Settlement Agreement;
- b) **Sampling Results/Data:** All results of sampling, tests and all other data received or generated by Settling Party, in an interactive, searchable database (in Excel or Access format). This database will be equivalent in form and function to any database used by the Settling Party in the development of the RD;
- c) **Description of Deliverables:** A description of all deliverables that Settling Party submitted to EPA;
- d) **Remedial Design (RD) Schedule:** An updated RD Schedule, together with information regarding approximate percentage of completion, delays encountered or anticipated that may affect the future schedule for completion of the RD, and a description of efforts made to mitigate those delays or anticipated delays;
- e) **Description of Modifications:** A description of any modifications to the work plans or other schedules that Settling Party has proposed or that have been approved by EPA; and
- f) **Community Involvement Plan (CIP) Activities:** A description of all activities undertaken in support of the CIP during the reporting period and those to be undertaken in the next reporting period.

Descriptions of these activities for the subject period are presented in the following sections.

## 2 SUMMARY OF ACTIVITIES DURING REPORTING PERIOD

Various activities were performed during the reporting period to support compliance with the Settlement Agreement SOW, as summarized below.

### 2.1 SUPPORTING DELIVERABLES

The following draft reports were prepared as supporting documents to the Pre Design Investigation Work Plan (PDI WP), and were submitted on April 7<sup>th</sup> via an enhanced file transfer site (EFT) for EPA review in order to implement work elements in the coming reporting period.

- **Health and Safety Plan (HASP):** The Draft HASP was prepared and submitted to EPA for review on April 7th via EFT. The HASP includes details of the project field personnel organization and responsibilities, activity hazard analyses worksheets for the initial PDI WP field tasks, medical surveillance procedures and documentation requirements, and evacuation route maps for the Passaic River work segments. The HASP also includes a copy of the previously submitted Emergency Response Plan (ERP) which was reviewed and approved by the EPA as an attachment to the Remedial Design Work Plan.
- **Uniform Federal Policy–Quality Assurance Project Plan (UFP-QAPP) and Field Sampling Plan (FSP):** The Draft UFP-QAPP and FSP was prepared and submitted to EPA for review on April 7th via EFT. The UFP-QAPP and FSP contain all relevant worksheets regarding the expected sampling and analysis of multiple media including soil, sediment, tissue, water, and benthic community species counts, as well as the analytical laboratory quality control details and standard operating procedures (SOPs) from seven separate laboratories, which will be used for the project's various analyses. The plan focuses on the QA/QC procedures and metrics for the analytical laboratory methods for the PDI WP field elements. Specifics such as sampling locations and sample quantities will be detailed in the forthcoming PDI WP.

## 2.2 PRE-DESIGN INVESTIGATION WORK PLAN

---

The following draft report was prepared and submitted as a separate deliverable from the remaining PDI WP elements to the EPA on April 7th via EFT. The data collected from this initial field effort will be used to develop and guide much of the subsequent sampling and design planning components, and therefore was submitted ahead of the PDI WP to expedite review for the proposed field implementation schedule in the coming reporting period.

- **Geophysical, Bathymetric, Shoreline & Debris Survey Work Plan (GBSDS WP):** The GBSDS WP presents details of the initial field data collection effort for survey work of the OU2 area. The GBSDS WP details site specific data collection for vessel mounted LiDAR surveys, aerial LiDAR and photogrammetry surveys, multi and single beam bathymetric surveys, and magnetometer surveys for debris analysis. The plan provides details of the instrumentation to be used for each survey component, as well as the quality control and measurement control requirements of the instrumentation. The GBSD WP field work is projected to begin in early summer 2017.

The remaining PDI WP elements will be submitted in May 2017. Preparation of the following PDI WP components was initiated during the reporting period. Additional text is provided for select PDI WP components.

- **Sediment Core Sampling Work Plan:** Work Plan preparation was initiated in January 2017, and supporting activities including extensive historic data review and evaluation. A meeting to discuss the sediment core sampling program is planned for May 2017 to discuss the proposed sampling program with the EPA.
- **Baseline Fish Study and Ichthyoplankton Characterization Work Plan:** The Work Plan incorporates the updated dredging window avoidance period for winter flounder and other trust fish stock resources documented in the February 2017 letter from the National Oceanic Atmospheric Administration (NOAA) to the US ArmyCorps of Engineer (USACE). A meeting to discuss the fish study program is planned for April 2017 to discuss the proposed sampling program with the EPA, NJDEP, NOAA, and the USACE.
- **Pore Water Work Plan**
- **Water Column Sampling Work Plan**
- **Dredge Elutriate Work Plan**
- **Borrow Site Assessment Work Plan**
- **Habitat Survey Work Plan**
- **Utilities Work Plan**
- **Geotechnical Evaluation of Structures & Shorelines Work Plan**
- **Cultural and Archeological Surveys Work Plan**

## 2.3 SITE WIDE MONITORING PLAN

---

Preparation of the draft Site Wide Monitoring Plan (SWMP) is ongoing, and will be submitted to the EPA in May 2017. The SWMP will include the following three long-term monitoring components: (1) surface sediment, (2) water column, and (3) fish/invertebrate tissue concentrations. The SWMP preparation during the January through March 2017 period included the development of the outline and introductory sections, compilation of historic data and the development of monitoring program frameworks for each of the three monitoring components.

## 2.4 SITE SELECTION AND EVALUATION WORK PLAN

Preparation of the draft Site Selection and Evaluation Work Plan (SSEWP) for the sediment processing facility is ongoing, and will be submitted to the EPA in June 2017. During the January through March 2017 period, GSH/Tetra Tech identified a number of potential candidate sites, their approximate size, ownership status and other relevant information to be used in evaluation metrics.

## 2.5 MEETINGS

A list of regulatory meetings attended by the EPA, GSH and Tetra Tech for the January through March 2017 reporting period, is provided below:

- January 26, 2017 EPA Meeting at EPA Region 2 Offices in New York City regarding draft Engineering Performance Standards and draft Quality of Life Performance Standards (EPA, GSH, USACE, Louis Berger, HDR, University Nevada Las Vegas [EPA Experts], and Tetra Tech).
- March 1, 2017 conference call to discuss GSH's comments (of February 10, 2017) on the draft Engineering Performance Standards and draft Quality of Life Performance Standards (EPA, GSH and Tetra Tech).

## 3 SAMPLING RESULTS / DATA

No newly generated sampling, tests and/or other data were received or generated by Settling Party during this reporting period.

## 4 DESCRIPTION OF DELIVERABLES

Deliverables that were submitted to the EPA during the reporting period are listed in Attachment I (Project Deliverables Chronology). The RD deliverables submitted to EPA for this period are as follows:

- **Project Management Plan (PMP):** Final on record with EPA; submitted February 28, 2017.
- **Remedial Design Work Plan (RDWP):** Final to EPA; obtained EPA approval on March 23, 2017.
- **Emergency Response Plan (ERP):** Final to EPA; obtained EPA approval on March 23, 2017.

## 5 REMEDIAL DESIGN (RD) SCHEDULE

The updated RD Schedule is provided in Attachment II. At this time, no delays have been encountered or are anticipated that may affect the future schedule for completion of the RD. Submitted deliverables and associated correspondence are listed in the Project Deliverables Chronology provided in Attachment I.

## 6 DESCRIPTION OF MODIFICATIONS

No modifications to the work plans or other schedules have been proposed by Settling Party nor approved by EPA.

## 7 COMMUNITY INVOLVEMENT PLAN (CIP) ACTIVITIES

GSH attended the CAG meeting held at the ICC Early Learning Center at 1 New York Avenue, Newark on March 9, 2017. GSH expects to present a project status overview of the Remedial Design with EPA at the CAG meeting scheduled in May 2017.

## ATTACHMENTS

---

## ATTACHMENT I

---

**PROJECT DELIVERABLES CHRONOLOGY**  
**Pre-Design Investigation and Remedial Design**  
**Lower 8.3 Miles of the Passaic River**  
**Operable Unit Two (OU 2) of the Diamond Alkali Superfund Site**  
**In and About Essex, Hudson, Bergen and Passaic Counties – New Jersey**  
**April 2017**

Date	Deliverable Information	
	Type/Title	Description
10/7/2016	Initial	Project Coordinator Designation submitted to EPA by GSH
10/14/2016	Initial	Supervising Contractor Designation submitted to EPA by GSH
10/19/2016	Initial	EPA approval of Tetra Tech as Supervising Contractor
10/25/2016	Initial	Financial assurance documentation submitted to EPA by GSH
12/21/2016	PMP	Draft PMP submitted to EPA by GSH
1/13/2017	RDWP/ERP	Draft RDWP with ERP submitted to EPA by GSH
1/17/2017	Quarterly	Quarterly Progress Report (for period of Oct. through Dec. 2016) submitted to EPA by GSH
2/27/2017	PMP	Final PMP submitted to EPA by GSH
3/7/2017	RDWP/ERP	Draft RDWP/ERP submitted to EPA by GSH
3/22/2017	RDWP/ERP	Final RDWP/ERP submitted to EPA by GSH
3/23/2017	RDWP/ERP	EPA approval of RDWP/ERP
4/11/2017	Quarterly	Quarterly Progress Report (for period of Jan. through Mar. 2017) submitted to EPA by GSH

**Notes**

ERP            Emergency Response Plan  
GSH            Glenn Springs Holdings, LLC  
PMP            Project Management Plan  
RDWP          Remedial Design Work Plan  
WP            Work Plan





## ATTACHMENT II

---

**REMEDIAL DESIGN PROJECT DELIVERABLES SCHEDULE**  
**Pre-Design Investigation and Remedial Design**  
**Lower 8.3 Miles of the Passaic River**  
**Operable Unit Two (OU 2) of the Diamond Alkali Superfund Site**  
**In and About Essex, Hudson, Bergen and Passaic Counties – New Jersey**  
**April 2017**

Deliverable <sup>(1)</sup>	Compliance Milestone <sup>(2)</sup>	Certification Required <sup>(3)</sup>	EPA Approval / Comment	Date to EPA <sup>(4)</sup>	Deadline <sup>(5)</sup>	SOW Paragraph	Submittal Status (to EPA)	EPA Approval / Comment Status	% Complete <sup>(8)</sup>
Progress Reports <sup>(6)</sup>				Refer to PMP Jan. 15 <sup>th</sup> April 15 <sup>th</sup> July 15 <sup>th</sup> Oct. 15 <sup>th</sup>	Quarterly, starting the month following Effective Date of the Settlement Agreement and until the EPA approves the Final (100%) RD.	4.3	Submitted 1/17/2017 4/11/2017	na	Ongoing
PMP	X		(does not require)	1/17/17	90 days after EPA's Authorization to Proceed regarding Supervising Contractor	3.1	Final Submitted 2/27/2017	Final PMP Approved	100% Living Document (to be updated as needed)
RDWP	X		Approval	1/17/17		3.3	Final Submitted 3/22/2017	Approved 3/23/2017	100%
ERP			Approval	1/17/17		5.7(b)			
PDI WP	X		Approval	TBD <sup>(4)</sup>	5/22/2017 (60 days after EPA's approval of RDWP)	3.2(a)	Due 5/22/2017	--	40%
HASP			Comment	With PDI WP	With PDI WP; supporting deliverable <sup>(7)</sup>	5.7(a)	With PDI WP	--	90%
FSP			Approval			5.7(c)	With PDI WP	--	90%
QAPP			Approval			5.7(d)	With PDI WP	--	90%
PDI Evaluation Report	X	X	Comment	TBD <sup>(4)</sup>	1 year and 180 days after EPA approval of PDI WP	3.2(b)	Pending Approvals of Prior Deliverables and Implementation of PDI Activities	--	0%

**REMEDIAL DESIGN PROJECT DELIVERABLES SCHEDULE**  
**Pre-Design Investigation and Remedial Design**  
**Lower 8.3 Miles of the Passaic River**  
**Operable Unit Two (OU 2) of the Diamond Alkali Superfund Site**  
**In and About Essex, Hudson, Bergen and Passaic Counties – New Jersey**  
**April 2017**

Deliverable <sup>(1)</sup>	Compliance Milestone <sup>(2)</sup>	Certification Required <sup>(3)</sup>	EPA Approval / Comment	Date to EPA <sup>(4)</sup>	Deadline <sup>(5)</sup>	SOW Paragraph	Submittal Status (to EPA)	EPA Approval / Comment Status	% Complete <sup>(8)</sup>
Site Wide Monitoring Plan			Comment*	TBD <sup>(4)</sup>	5/22/2017 (60 days after EPA's approval of RDWP)	3.5* & 5.7(e)	Due 5/22/2017	–	20%
Site Selection and Evaluation WP	X		Approval	TBD <sup>(4)</sup>	6/21/2017 (90 days after EPA's approval of RDWP)	3.6(a)	Due 6/21/2017	–	35%
Site Selection and Evaluation Report	X	X	Comment	TBD <sup>(4)</sup>	180 days after EPA's approval of Site Selection and Evaluation WP	3.6(b)	Pending Approvals of Prior Deliverables	–	0%
TSWP			Approval	TBD <sup>(4)</sup>	90 days after EPA's approval of PDIWP	3.7(b)	Pending Approvals of Prior Deliverables	–	0%
TS Evaluation Report		X	Comment	TBD <sup>(4)</sup>	180 days after EPA's approval of TSWP	3.7(c )	Pending Approvals of Prior Deliverables	–	0%
Preliminary (30%) RD	X		Comment	TBD <sup>(4)</sup>	90 days after submittal of PDI Evaluation Report	3.8	Pending Approvals of Prior Deliverables	–	0%
TODP			Comment*	With Preliminary (30%) RD	With Preliminary (30%) RD; supporting deliverable <sup>(7)</sup>	3.8* & 5.7(g)	Pending Approvals of Prior Deliverables	–	0%
Intermediate (60%) RD	X		Comment	TBD <sup>(4)</sup>	120 days after EPA's comments on the Preliminary (30%) RD	3.9	Pending Approvals of Prior Deliverables	–	0%

**REMEDIAL DESIGN PROJECT DELIVERABLES SCHEDULE**  
**Pre-Design Investigation and Remedial Design**  
**Lower 8.3 Miles of the Passaic River**  
**Operable Unit Two (OU 2) of the Diamond Alkali Superfund Site**  
**In and About Essex, Hudson, Bergen and Passaic Counties – New Jersey**  
**April 2017**

Deliverable <sup>(1)</sup>	Compliance Milestone <sup>(2)</sup>	Certification Required <sup>(3)</sup>	EPA Approval / Comment	Date to EPA <sup>(4)</sup>	Deadline <sup>(5)</sup>	SOW Paragraph	Submittal Status (to EPA)	EPA Approval / Comment Status	% Complete <sup>(8)</sup>
Value Engineering (VE) Study Results			Comment	TBD <sup>(4)</sup>	90 days after submittal of Intermediate (60%) RD	3.10	Pending Approvals of Prior Deliverables	--	0%
Pre-Final (95%) RD	X		Comment	TBD <sup>(4)</sup>	90 days after EPA's comments on the intermediate RD and VE Study	3.11	Pending Approvals of Prior Deliverables	--	0%
CQA/QCP			Comment*	With Pre-Final (95%) RD	With Pre-Final (95%) RD; supporting deliverable <sup>(7)</sup>	3.11* & 5.7(f)	With 95% RD		
O&M Plan			Comment*			3.11* & 5.7(h)	With 95% RD		
ICIAP			Comment*			3.11* & 5.7(i)	With 95% RD		
Final (100%) RD	X	X	Approval	TBD <sup>(4)</sup>	60 days after EPA's comments on the Pre-Final (95%) RD	3.12	Pending Approvals of Prior Deliverables	--	0%
Periodic Review Support Plan (PRSP)			Approval	TBD at EPA Direction	30 days after EPA request	4.5	Pending Approvals of Prior Deliverables	--	0%

**Notes**

CQA/QCP Construction Quality Assurance/Quality Control Plan.  
 ERP Emergency Response Plan  
 FSP Field Sampling Plan (Included as part of the QAPP)

HASP Health & Safety Plan  
 ICIAP Institutional Controls Implementation and Assurance Plan  
 PDI Pre-Design Investigation

**REMEDIAL DESIGN PROJECT DELIVERABLES SCHEDULE**  
**Pre-Design Investigation and Remedial Design**  
**Lower 8.3 Miles of the Passaic River**  
**Operable Unit Two (OU 2) of the Diamond Alkali Superfund Site**  
**In and About Essex, Hudson, Bergen and Passaic Counties – New Jersey**  
**April 2017**

Deliverable <sup>(1)</sup>	Compliance Milestone <sup>(2)</sup>	Certification Required <sup>(3)</sup>	EPA Approval / Comment	Date to EPA <sup>(4)</sup>	Deadline <sup>(5)</sup>	SOW Paragraph	Submittal Status (to EPA)	EPA Approval / Comment Status	% Complete <sup>(8)</sup>
PMP	Project Management Plan				TODP	Transportation and Off-Site Disposal Plan			
QAPP	Quality Assurance Project Plan				TS	Treatability Study			
SOW	Statement of Work				WP	Work Plan			
RD	Remedial Design								

(1) Information obtained from the Settlement Agreement and SOW (refer to Appendix A and Notes 2 and 3, below).

(2) Compliance Milestone: Identified deliverables are compliance milestones, subject to stipulated penalties, pursuant to the Settlement Agreement Section XVI, Paragraph 80.

(3) Certification: Identified deliverables must be signed by the Settling Party's Project Coordinator, or other responsible official of Settling Party, and must contain the certification statement provided in Section 5.5 of the SOW.

(4) Date to EPA is based on the Effective Date of the Settlement Agreement (September 30, 2016), EPA Authorization to Proceed (October 19, 2016) and the information in the "Deadline" column. Some dates are "TBD" (to be determined) since they are subject to the date of EPA approval of prior deliverables, as specified by the Settlement Agreement and indicated in the "Deadline" column.

(5) Deadline information is based on the RD Schedule in Section 6.2 of the Settlement Agreement SOW.

(6) Quarterly Progress reports proposed for submittal on the 15<sup>th</sup> of January, April, July and October. If the 15<sup>th</sup> of the month falls on a weekend or holiday, the report will be submitted the next business day. Refer to PMP Section 3.2.1 for details.

(7) Supporting Deliverables as per Section 5.7 of Settlement Agreement and SOW.

(8) % Complete is an estimate of status of deliverable development relative to EPA comment/approval and finalization.